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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/812,237

03/29/2004

Chul-Ho Bae

678-1304

2192

66547 7590 05/11/2009
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EXAMINER

CUTLER, ALBERT H

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

05/11/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/812,237	Applicant(s) BAE, CHUL-HO	
	Examiner ALBERT H. CUTLER	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to communication filed on April 13, 2009.

Response to Arguments

2. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuta (US 2004/0203532) in view of Britz (US 5,414,444).

Consider claim 1, Mizuta teaches:

A camera lens assembly (camera section, 121, figures 1A-3B) mounted in a portable wireless terminal (portable telephone, 500), comprising:

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a first lens housing (cylindrical case, 309), shaped as a cylinder ("cylindrical", see figure 2, paragraph 0032), rotatably attached to the portable wireless terminal so that the first lens housing (309) can be rotated about a first rotating axis extending in a longitudinal direction of the cylinder (309) and in a direction perpendicular to a base of the cylinder (See figure 2, paragraphs 0032, 0033 and 0037. The cylinder (309) is attached to a horizontal rotation axis (301) which rotates about a first rotating axis extending in a longitudinal direction perpendicular to the base of the cylinder (309).); and

Mizuta additionally teaches that the camera section (121) may be provided with a tilt mechanism (paragraph 0070).

However, Mizuta does not explicitly teach that a second lens housing is rotatably attached to the first lens housing so that the second lens housing can be rotated about a second rotating axis extending perpendicularly to the first rotating axis, the second lens housing having a camera lens mounted therein.

Britz similarly teaches a camera lens assembly (115) mounted in a portable wireless terminal (see figures 1 and 2), comprising a first lens housing, shaped as a cylinder (See figure 7. The cylindrical outer periphery constitutes a first lens housing.) attached to the portable wireless terminal (See figures 1 and 2, column 4, lines 16-27. The first lens housing is mounted on a communicator (i.e. a portable wireless terminal).).

However, in addition to the teachings of Mizuta, Britz teaches a second lens housing (700, see figure 7) rotatably attached to the first lens housing so that the

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second lens housing (700) can be rotated about a second rotating axis extending perpendicularly to a first axis extending in a longitudinal direction perpendicular to the base of the cylinder (The second lens housing has two axes of rotation. See figure 7, column 4, lines 16-27.), the second lens (700) housing having a camera lens mounted therein (A camera lens is mounted on the upper portion of the second lens housing (700) in figure 7. See 303, figure 5, column 3, lines 24-31.).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to have the second lens housing taught by Britz rotatably attached to the first lens housing taught by Mizuta so that the second lens housing can be rotated about a second rotating axis extending perpendicularly to the first axis for the benefit of providing a tilt mechanism as suggested by Mizuta (paragraph 0070) and providing more camera versatility by controllably optimizing image field coverage (Britz, column 1, lines 31-34).

Consider claim 2, and as applied to claim 1 above, Mizuta further teaches that the first lens housing (309) is a cylinder ("cylindrical", paragraph 0032, figure 2) with an open end (see figure 2), and wherein the first lens housing has a first semicircular opening, formed on an outer circumference thereof adjacent to the open end (See the semicircular opening formed on the outside of the cylindrical case (309) of figure 2.), and a pair of supporting pieces spaced diametrically from one another and angularly from the first semicircular opening and extending from the open end along the first rotating axis (The open/close rotation axis (302) comprises a pair of supporting pieces

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spaced diametrically from one another and angularly from the first semicircular opening and extending from the open end along the first rotating axis, as shown in figure 2.).

However, Mizuta does not explicitly teach that the first lens housing has an open end for allowing the second lens housing to be attached to the first lens housing.

Britz teaches that the first lens housing is a cylinder with an open end for allowing the second lens housing (700) to be attached to the first lens housing (see figure 7, claim 1 rationale).

Consider claim 3, and as applied to claim 2 above, Mizuta does not explicitly teach a second lens housing.

However, Britz additionally teaches that the second lens housing (700) is sphere-shaped and attached to the open end of the first lens housing (see figure 7), wherein the second lens housing (700) has a pair of supporting pins (axial supports, 703, 704) protruding outwardly from an outer circumference of the second lens housing (700) in opposite directions perpendicular to the first rotating axis (Because the second housing actually has two pairs of supporting pins (see figure 7), at least one of which will be perpendicular to the first rotating axis. See also figures 9 and 10.), so that the supporting pins each are rotatably coupled with a respective one of the supporting pieces of the first lens housing (When the first lens housing taught by Mizuta is combined with the second lens housing taught by Britz, the supporting pins of the first lens housing would be rotatably coupled with the supporting pieces of second lens housing.), the second lens housing (700) further having a second opening formed on

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the outer circumference thereof and spaced from the pair of supporting pins for exposing the camera lens (see figure 7).

Consider claim 4, and as applied to claim 3 above, Mizuta does not explicitly teach a second lens housing.

However, Britz further teaches that the second opening is positioned above the first opening as the lens housing is rotated (see figure 7).

Consider claim 5, and as applied to claim 3 above, Mizuta does not explicitly teach a second lens housing.

However, Britz further teaches that the second lens housing (700) further has a stopper protrusion formed on the outer circumference thereof (the protruding portion with the lens constitutes a stopper portion, as it stops the rotation of the second lens housing, figure 4.), and wherein the stopper protrusion is engaged with the open end of the first lens housing to restrict a rotation range of the second lens housing relative to the first lens housing (see figure 4).

Consider claim 6, and as applied to claim 5 above, Mizuta does not explicitly teach a second lens housing.

However, Britz further teaches that the rotation range of the second lens housing is limited to about an angle of 90 degrees (see figures 4 and 7).

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Consider claim 7, and as applied to claim 1 above, Mizuta further teaches that the camera (121, figure 3B) has a flexible printed circuit (FPC connection wires, 609) extending from one end thereof (see figure 3B), the flexible printed circuit (609) passing through a through-hole and the first lens housing and then being drawn out from the other end of the first lens housing (see figure 3B, paragraph 0041). Mizuta does not explicitly teach a second lens housing.

However, Britz further teaches that the second lens housing (700) further has a through-hole formed at an outer circumference thereof, the through-hole being placed in the first lens housing, and wherein the camera lens has cables extended from one end thereof, the cables passing through the through-hole and the first lens housing and then being drawn out from the other end of the first lens housing (See figures 3 and 5. Britz teaches of a camera shaft fixed to the lens housing and extending from the left portion thereof with reference to figures 3 and 5. Said shaft contains cables for joining the imaging chip to the video circuitry in the housing of the circuit board. See column 3, lines 24-44.).

Consider claim 8, and as applied to claim 1 above, Mizuta further teaches a camera shaft (first rotation axis, 301) fixed to the first lens housing (309, paragraphs 0032 and 0037) and spaced from the second lens housing along the first rotating axis (see figure 2), the camera shaft extending along the first rotating axis so that the camera lens is rotatably attached to the terminal (The camera shaft (301) extends along

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the first rotating axis and is rotatably attached to the base plate (304) of the lower unit (100) of the camera, paragraphs 0032-0033.).

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuta in view of Britz as applied to claim 8 above, and further in view of Masami et al. (Japanese Patent Application Publication 2002-359678).

Consider claim 9, and as applied to claim 8 above, Mizuta teaches of a shaft (301, claim 8 rationale). However the combination of Mizuta and Britz does not explicitly teach of a grooved coupling part or an E-ring.

Masami et al. is similar in that a lens housing is attached to a phone terminal (see figures 1, 3, 4, and 5). Masami et al. is further similar in that said lens housing is rotatably attached to the terminal body so as to rotate about an axis of rotation extending from the terminal body (paragraph 0031).

In addition to the teachings of the combination of Mizuta and Britz, Masami teaches the camera shaft has a grooved coupling part formed on an end thereof, the grooved coupling part being configured to fittingly receive an E-ring (See figures 3 and 4. The camera shaft (42) has a groove on the interior thereof, where an e-ring (73) is fitted, paragraphs 0031-0047).

Therefore, it would have been obvious to fit an E-ring into a grooved portion as taught by Masami et al. of the shaft taught by the combination of Mizuta and Britz for the benefit of providing friction, allowing the second lens housing to turn with the rotation of

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the camera, and thus avoiding having the camera lens and window pointed toward the outside of the terminal device when the photographing operation is not being performed, thereby protecting the camera from the exterior (Masami et al., paragraphs 0008, 0009 and 0013-0016).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALBERT H. CUTLER whose telephone number is (571)270-1460. The examiner can normally be reached on Mon-Thu (9:00-5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC

/Sinh Tran/
Supervisory Patent Examiner, Art Unit 2622